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**AIRLAND BATTLE AND THE OPERATIONAL
COMMANDER'S INFORMATION REQUIREMENTS**

A Monograph

by

Major Joseph S. Drelling
Air Defense Artillery

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This paper concludes by saying that the information flow to the operational commander can be reduced. In each area of discussion a list of critical information elements is given to support this goal. Though the commander can prevent himself from being overwhelmed with information, his ability to do so is based on his leadership style. The commander must be willing to allow his staff to manage the myriad of details necessary to concentrate on those critical aspects of the campaign which only he can properly oversee.

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and
The Operational Commander's Information Requirements

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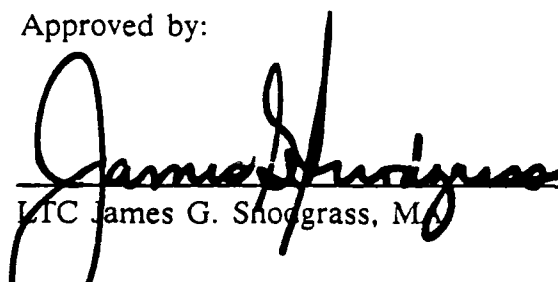
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ABSTRACT

AIRLAND BATTLE AND THE OPERATIONAL COMMANDER'S INFORMATION REQUIREMENTS by Major Joseph S. Drelling, USA, 51 pages

This monograph examines the operational commander and his information requirements. Specifically, this paper attempts to identify the core elements of information which the operational commander requires to support his decision-making process. The reduction of the information the operational commander must see provides him more time with which to accomplish the multitude of tasks he is expected to attend to. The three major areas of interest examined are: strategic guidance, current operations, and future operations.

Each of the three areas of interest is examined from a theoretical and doctrinal perspective. Additionally, the discussion of the areas of current and future operations also considers the value of intelligence and logistics information. Following the discussion of the operational commander's requirements in each of the three primary areas of interest, an historical example is examined. The example used is the information General Eisenhower received prior to the execution of Operation Overlord through the conduct of the Antwerp Operation.

The paper concludes by saying that the information flow to the operational commander can be reduced. In each area of discussion a list of critical information elements is given to support this goal. Though the commander can prevent himself from being overwhelmed with information, his ability to do this is based on his leadership style. The commander must be willing to allow his staff to manage the myriad of details necessary while conducting a campaign. This frees the commander to concentrate on those critical aspects of the campaign which only he can properly oversee.

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I. INTRODUCTION

At both the operational and tactical levels, the generation of combat power requires the conversion of the potential of forces, resources, and tactical opportunity into actual capability through violent and coordinated action concentrated at the decisive time and place. Superior combat power is generated through a commander's skillful combination of the elements of maneuver, firepower, protection and leadership in a sound plan flexibly but forcefully executed.

-FM 100-5. Operations¹

Background:

The theater commander of today faces a highly complex and challenging task. The time and space considerations which influence his decisions are substantially different from those of the tactical commander. The theater commander must be able to see the big picture on the battlefield yet he must not be overwhelmed with information. Current command and control (C²) systems allow the commander to remain in control from virtually anywhere on the battlefield. Part of the purpose of C² systems is to provide the commander with information to support his decision-making process. The problem is the identification of what information the operational commander must have to be effective. This information must be

sufficiently detailed to allow the commander to see the battlefield but must not overwhelm him with its volume.

Growth of Complexity:

Since the Napoleonic era the size of armies and complexity of their C² functions have continued to increase. When Clausewitz wrote On War the commander only had to control eleven functions and agencies to run his army properly. By World War II these eleven areas had grown to twenty and in today's AirLand Battle the commander has thirty areas to synchronize and integrate. This growth of complexity can only be expected to continue over time. General William E. DePuy has clearly laid out this growth of complexity in a chart he included in a recent article in Army magazine.² General DePuy's chart is included in Appendix A. Though the complexity of battlefield functions and the requirement to coordinate them properly have grown explosively over the past 150 years, today's theater commander does not have to know all the details in each of these functional areas.

Primary Areas of Interest:

What information the commander desires to have provided to him depends strongly on his personality and leadership style. Each commander's perspective of his job and inherent responsibilities will differ. What I hope to accomplish in this monograph is to identify some core elements of

information which would be of value to any operational commander regardless of his leadership style. I will try to identify these critical elements of information by considering three primary areas of interest to any operational commander. These areas are:

Strategic Guidance

Current Operations

Future Operations

By themselves these three areas do not totally cover the theater commander's concerns. Two other areas, operational intelligence and sustainment, will be discussed as subcomponents of the current and future operations categories.

While trying to identify these elements of information I examined the campaigns of General Dwight D. Eisenhower in Europe. While studying this great leader, I found that he did not directly address what critical elements of information he required. To identify these core elements of information I analyzed his campaigns with regard to strategic guidance received, current operations, and future operations. The synthesis of this analysis will be included as lists of critical information requirements in subsequent sections of this monograph.

II. THE OPERATIONAL COMMANDER AND OPERATIONAL ART

Definition of Terms:

Before identifying specific elements of information which may be valuable to an operational commander it is important first to define the terms. The two most important terms to understand completely are "operational commander" and "operational art." Both of these terms are widely used in articles and publications but are not always well understood. A clear understanding is required to determine what information would be most valuable to this type of commander. The coordinating draft of FM 100-6, Large Unit Operations, provides some guidance concerning where an operational commander may be found:

"Today, the army corps is the largest land formation for which purely tactical responsibilities are still conceivable. While US armed forces could well be engaged in small-scale contests in which corps, divisions, or brigades exercise operational responsibilities, warfare on a major scale will find such formations performing in a tactical role, with operational direction reserved to US or Alliance echelons above corps."³

FM 100-6 also defines "operational art" and provides a discussion which helps clarify the term:

"Operational art is the employment of military forces to attain strategic goals through the design, organization, and execution of campaigns and major operations. In its simplest expression, operational art determines when, where and for what immediate purpose major

forces will fight. It governs the deployment of these forces, their commitment to or withdrawal from battle, and the sequencing of successive battles and engagements to attain major objectives. Thus, operational art is the vital link between strategic aims and the tactical employment of forces on the battlefield."⁴

FM 100-5, Operations, also provides insight concerning the operational commander. Similar to FM 100-6, FM 100-5 states that: "No particular echelon of command is solely or uniquely concerned with operational art, but theater commanders and their chief subordinates usually plan and direct campaigns."⁵ Additionally, FM 100-5 includes its own definition of operational art: "the employment of military forces to attain strategic goals in a theater of war or theater of operations through the design, organization, and conduct of campaigns and major operations."⁶ Though there are many characteristics of operational art, some of the key elements summarized in FM 100-5 include⁷:

- Identifying when and where to fight
- Accepting or declining battle
- Identification of the enemy center of gravity
- Broad vision
- Anticipation
- Effective joint and combined cooperation

Doctrinal Considerations:

In today's doctrine two concepts seem to remain consistent. First, the operational level is not tied to any specific echelon of command. The commander of any unit which is assigned an operational mission works at the operational level. This may range from a brigade commander whose brigade is sent to a third world country as a show of resolve up to the commander of a theater of war. For purposes of discussion this monograph will concentrate on the theater commander as an operational commander.

The second concept which remains consistent is that operational art employs military forces to conduct campaigns and major operations which are designed to achieve a strategic objective. In most cases theater forces are large units, not brigades, divisions, or even corps. In Europe the theater commander would design and conduct campaigns while subordinate army group commanders would design and execute major operations in support of the theater campaign plan. In turn, subordinate corps and division commanders would conduct tactical operations to support these plans. It is the skill, character, intellect, and boldness of the operational commander that tie these tactical operations together so that they accomplish the strategic objective.

III. THEORETICAL CONSIDERATIONS

J.F.C. Fuller's Pillars of Generalship:

In his study, Generalship: Its Diseases and Their Cure, Major-General J.F.C. Fuller identified three pillars of generalship: courage, creative intelligence, and physical fitness.⁸ Two of these, courage and creative intelligence, are influenced by the information available to the theater commander. The availability and accuracy of this information affects how the commander will utilize his courage. Will he realize the enemy is confused and attack, or will he recognize his own force is nearing its culminating point and must assume the defense while he takes an operational pause to rebuild its strength? Should he strike out at his enemy's center of gravity directly or indirectly? Properly answering these questions requires a combination of genius and good information. This information must describe the enemy force and also tell the commander critical information about his own force.

The commander's creative intelligence may also be limited without information to feed it. Without information, any human intelligence, creative or not, will be blind. Information is data which can be turned into intelligence via analysis or can be used to control an organization (i.e.: theater of war). For the commander's creative intelligence to be of value it must have good information to consider and interpret.

Clausewitz and Information:

A theater commander, whether in charge of a theater of war or a theater of operations, commands an immense organization. Effective control of that organization would be impossible without information about what is happening within that organization. The theater commander must also be aware of his opponent's activities. To accomplish these tasks the theater commander has information and C² systems. These systems were established because the commander and his staff "need information about what is going on in the organization so they can coordinate the activities of others."⁹ They are there to support the commander's decision-making process. With the advent of high speed computers, these systems can provide more information than the commander can possibly evaluate. Another problem is that these systems are often provided invalid information.¹⁰ For this reason Carl von Clausewitz did not think highly of most information.

Clausewitz identified three major characteristics, or properties, of military activity: Moral Forces and Effects, Positive Reaction, and the Uncertainty of All Information.¹¹ Concerning his third property Clausewitz only wrote briefly:

"Finally, the general unreliability of all information presents a special problem in war: all action takes place, so to speak, in a kind of twilight.

which, like fog or moonlight, often tends to make things seem grotesque and larger than they really are.

Whatever is hidden from full view in this feeble light has to be guessed at by talent, or simply left to chance. So once again for lack of objective knowledge one has to trust to talent or to luck."¹²

These two paragraphs were all Clausewitz penned about information in general but they are highly important. Throughout his treatise On War Clausewitz wrote disdainfully about a specific type of information--intelligence. In a handful of words he summed up his thoughts, "In short, most intelligence is false..."¹³ Clausewitz made no attempt to address the elements of information the commander would require, but he indirectly described some of the critical ones.

In Book Three, On Strategy in General, Clausewitz discussed how the strategist (operational commander today) must "define an aim for the entire operational side of the war..."¹⁴ This is the strategic objective to be accomplished by the campaign. He also discussed how "a general can best demonstrate his genius by managing a campaign exactly to suit his objectives and his resources, doing neither too much nor too little."¹⁵ Thus the operational commander must understand the capability and status of his own forces as well as those of the enemy. Another factor referring to information is the "smooth harmony"¹⁶ of the whole operation. This implies knowledge of the subordinate's actions and an ability to synchronize

them properly. The five "elements of strategy"¹⁷ Clausewitz identified and the types of information they represent are shown in Figure #1:

Elements of Strategy:

- moral
- physical
- mathematical
- geographical
- statistical

Information required:

- psychological
- forces available
- lines of operation
- rates of movement
- timing
- terrain
- sustainment

Figure #1: Clausewitz's Elements of Strategy and their Information Requirements

Sun Tzu's Fundamental Factors:

Like Clausewitz, Sun Tzu in his Art of War does not directly address the information requirements for the operational commander but does imply what they are. Sun Tzu identified five fundamental factors which need to be considered in war.¹⁸ These factors and their information requirements are summarized in Figure #2 below:

Fundamental Factors:

- moral influence
- weather
- terrain
- command
- doctrine

Information required:

- psychological
- weather's impact
- terrain's influence
- leader's wisdom/courage
- control & sustainment

Figure #2: Sun Tzu's Fundamental Factors and their

Information Requirements

Obviously, the commander must understand certain elements of information. But, as Clausewitz points out, information by itself is not sufficient. The genius of the commander is still key. The theater commander must be able to evaluate the strategic situation and requirements and then develop a campaign plan which will accomplish the desired aim.

IV. STRATEGIC GUIDANCE

"National strategy is the plan or expression of the coordinated use of national power which includes political, economic, psychological, and military power plus national will during peace, crisis, or war to secure national objectives."

- FM 100-5. Large Unit Operations¹⁹

Strategic guidance is that information provided by the National Command Authority, or its representative, which defines the operational commander's mission. This guidance must include three critical pieces of information: the strategic aim to be accomplished, the resources available, and any limiting factors which may affect operations.²⁰ It is the operational commander's responsibility to interpret that guidance and to develop a campaign plan which will accomplish the specified strategic aim. To accomplish this task the operational commander must answer three questions:

(1) What military condition must be produced in the theater of war or operations to achieve the strategic goal?

(2) What sequence of actions is most likely to produce that condition?

(3) How should the resources of the force be applied to accomplish that sequence of actions?

- FM 100-5. Operations²¹

Strategic Aim:

To answer these questions effectively the operational commander must have a clear understanding of the three elements of information included in the strategic guidance. These will help him to determine what he is to accomplish. This is not always an easy task because the strategic aim may be vaguely defined. To interpret a strategic aim properly the commander must understand the broader strategy which may include diplomatic, economic, and psychological activities.²²

Resources:

The resources he is provided will help him determine what actions he can expect to accomplish and the associated risk. If the operational commander feels that he was provided inadequate resources with which to accomplish the strategic aim or that the risk in accomplishing that aim is excessive, then he must attempt to obtain more resources or have the strategic aim modified.

Limiting Factors:

The limiting factors identified in the strategic guidance tell the commander what types of actions he is prohibited from doing. An example would be to limit operations to a specific area. In addition, constraints identify actions which the commander must take or methods he must employ.²³ An example would be the seizure of an

objective which is not related to theater aims but is of strategic value.

At the strategic level two other factors are important; these are the threat he must counter and the geography of his area of operations. With this strategic information the theater commander can begin developing his campaign plan.

An Historical Example -- Eisenhower in Europe:

Strategic guidance, entitled "Directive to Supreme Commander Allied Expeditionary Force," was issued to General Eisenhower on 12 February 1944.²⁴ The Combined Chiefs of Staff issued this directive to General Eisenhower to appoint him as Supreme Commander Allied Expeditionary Force and to place him in command of Operation Overlord, the invasion of Europe. Though the directive was the primary written order, there were many other messages and agreements that established requirements and gave direction to Eisenhower.

The directive provided General Eisenhower with the initial strategic guidance he required to develop a campaign plan. The strategic aim given to Eisenhower was: "You will enter the continent of Europe and, in conjunction with the other United Nations, undertake operations aimed at the heart of Germany and the destruction of her armed forces."²⁵ This task provided the Supreme Commander the objective towards which his operations would strive. Though the desired end state was not clearly stated, the objective, the destruction of German armed forces, was.

The resources available to Eisenhower were not delineated in a detailed fashion but were generally identified. First, General Eisenhower was designated as the Supreme Commander. Eisenhower's appointment to this position gave him military authority over all allied forces involved. Second, the statement of resources was included as an appendix to the command paragraph; it was the chain of command within which the Supreme Commander was to operate²⁶. (See Appendix B)

The third component of strategic guidance was identified as limiting factors. General Eisenhower did not receive any limiting factors (restraints) in his guidance; instead he received constraints. The first constraint was the timeframe for execution of the invasion. Though not given a specific date, Eisenhower was instructed to enter the continent of Europe in the month of May 1944.²⁷ This required that the invasion take place in three months! The second constraint Eisenhower received was :

"After adequate Channel ports have been secured, exploitation will be directed towards securing an area that will facilitate both ground and air operations against the enemy."²⁸

This constraint required the invasion force to secure the Channel ports first. Once the ports were secure then operations would be conducted to control sufficient terrain to allow the conduct of both ground and air operations from

bases on the continent. This would allow air operations to extend further inland and the aircraft would have more loiter time available for supporting ground operations. The third constraint Eisenhower received dealt with logistics:

"5. Logistics. In the United Kingdom the responsibility for logistics organization, concentration, movement, and supply of forces to meet the requirements of your plan will rest with British Service Ministries so far as British Forces are concerned. So far as United States Forces are concerned, this responsibility will rest with the United States War and Navy Departments. You will be responsible for the coordination of logistical arrangements on the continent. You will also be responsible for coordinating the requirements of British and United States forces under your command."²⁹

Thus logistics were broken out along national lines while the landing force was in the United Kingdom. Once the landings had taken place Eisenhower was given responsibility for all logistical requirements. This responsibility also included coordination between British and United States forces under his command.

This discussion has shown that General Eisenhower received the critical elements of strategic guidance he required from his political leadership. This information was sufficient enough to allow him to plan a campaign which would accomplish the strategic objective. Without this information Eisenhower could not have effectively pursued strategic goals and would not have been authorized or able

to plan a campaign. The frequency with which strategic guidance is given will vary depending on the sensitivity of the situation and the type of conflict. If the conflict is limited in nature there may be more political control over operations; thus strategic guidance may change more often. If a state of general war exists, the frequency of strategic changes will probably be reduced. In general war the overall goal will probably remain constant but the details will change. Regardless of the situation, the theater commander must understand the political requirements. Whenever they change he should be involved in the process to ensure that the changes are achievable.

V. CURRENT OPERATIONS

"The integration and concentration of some 30 functions on the AirLand battlefield are the ultimate product of the C₂ system, and the commander's concept of operation is the start point and the heart of that system."

- DePuy³⁰

Current operations include all operations which are ongoing or are inside the theater's planning window. All actions taking place within this window are being controlled or planned by corps and division headquarters. Only in exceptional circumstances should the theater commander become directly involved in the control of current operations.

The objective of command and control (C²) systems is to facilitate the flow of relevant information which supports the decision-making process.³¹ Within division, corps, and operational level headquarters this information can be overwhelming. In simple terms, "the problem is that many commanders ... do not know what information is critical to them and when they need to know it."³²

The types of current operations information the theater commander requires are highly dependent on his leadership style. Generally, the theater commander should use the indirect approach to influence routine matters and the direct approach to influence critical things which impact on the course of the campaign.³³ The commander must identify for his staff the information he feels is important to his

decision-making process and when he needs to have that information.

As an operational commander, the theater commander requires information which is quite different from that needed by tactical commanders. While the tactical commander will need to know more detailed and specific types of information, the operational commander will be concerned about trends and predicting future enemy activities. This information falls into three major categories: intelligence, friendly situation, and logistics.

Current Operations Intelligence Information:

The current intelligence information that the operational commander requires is that information which indicates what the enemy commander is intending to do in the immediate future. General Robert Shoemaker, former 1st Cavalry Division commander, succinctly stated, "I don't want to know every single one of the enemy machine-gun locations. I want to know where his reserves are, is he massing artillery ammo stocks -- those things that will tell me what he is planning to do."³⁴ Though General Shoemaker was commanding at a tactical level, his comment aptly applies to the current intelligence information the operational commander needs. By studying major operational commanders in World War II and the Korean War, I have identified the following list of information requirements. Knowledge of

the following elements was vital to Eisenhower while conducting his campaigns across Europe:

- location of main effort
- location of enemy breakthrough into operational depth
- location of operational reserves
- relocation of major forces (ground, air, naval, service) within theater
- introduction of new forces into the theater or into the theater commander's area of interest
- initial use of special weapons
- concentration of enemy forces or logistical capability in theater
- new technology/weapons systems introduced
- identification of enemy order of battle
- identification of enemy operational commander(s) and any changes

This list is by no means complete but includes information which the theater commander would need to know about enemy current operations. As with any list of this nature, it can be expanded to include other elements of interest to the commander.

Information on Current Friendly Operations:

The information the theater commander must know concerning current friendly operations will impact on the

branches and sequels of the theater campaign plan. Similar to current intelligence, this information indicates trends to the commander. An evaluation of historical campaigns resulted in the following list of information requirements which were valuable to the great operational commander studied:

- the forward line of own troops
- the completion of the current phase or a major operation of the campaign plan
- the operational readiness of major subordinate commands
- requests for release of special weapons
- losses of major subordinate commanders
- the disclosure/loss or information which may be critical to the execution of the campaign plan

These elements of information provide the commander a picture of his command which is relevant to his decision-making process. This list can also include other areas of interest to the commander.

Current Operations Logistics Information:

"That all warfare consists of an endless series of difficulties, things that go wrong. ... is precisely what Clausewitz meant when talking about the 'friction' of war."

-Van Creveld³⁵

Clausewitz's "friction" is what drives the theater commander's requirements for current logistics information. The commander knows the resources which were planned. What he needs to know is how changes in the situation have affected the sustainment plan. An adjustment in the operational logistics plan may have to be made. An examination of the historical campaigns previously mentioned revealed a number of logistical concerns for operational commanders:

- unexpected losses of logistical capability due to enemy action (ie: maintenance, transportation, supply)
- windfall capture of large enemy stocks
- unexpected consumption of critical classes of supply resulting in shortages
- loss or diversion of expected resupply
- overload on the medical services system resulting in a need to change the theater evacuation policy
- loss of or threat against a theater line of communication

Logistical information, like other categories of information, is adjusted to fit the theater commander's requirements. The information elements listed above are the minimum ones needed to support the commander's decision-making process. Depending on the situation, specific items may also be tracked to ensure control. Examples of this may include major end items like the M1 Abrams main battle tank or 5000-gallon tankers.

An Historical Example --
The Normandy Landings and Operation Cobra:

The Normandy landings of June 1944 were probably the most dramatic and decisive events of the Second World War. Following the landings an extended buildup took place before the breakout. Operation Cobra was launched. To decide when to initiate the breakout, Eisenhower required current information on the Normandy actions. Though confident in their success he also recognized that a high degree of risk was involved.³⁶

Having his greatest concern over the success of the landings on Omaha Beach, Eisenhower visited that location on 7 June 1944³⁷. During his visit he saw that operations were proceeding at a satisfactory pace. Eisenhower also took the opportunity to visit the principal commanders at each of the beaches, to include General Sir Bernard Montgomery. This first-hand knowledge helped satisfy Eisenhower's concerns over the landings. In his own words:

"Uncertain difficulties are always certain to develop in the execution of a plan of this kind: frequently they involve two or more of the services. They are easily enough handled if the high command is alert to the situation and in position instantly to make a decision that prevents the difficulty from assuming unnecessary proportions."³⁸

The success he witnessed at the beaches allowed

Eisenhower to move the campaign into its next phase which he called the "Battle of the Beachhead."³⁹ If the landings had encountered more resistance than expected, Eisenhower may have had to change his campaign and withdraw from the beaches. The current information Eisenhower gained on friendly operations allowed him to select the correct branch or sequel to follow.

Eisenhower provided some insight into a theater commander's concept for a campaign plan. He wrote:

... there is a vast difference between a definite plan or battle or campaign and the hoped-for eventual results of the operation. In committing troops to battle there are certain minimum objectives to be attained, else the operation is a failure. ... A battle plan normally attempts to provide guidance ... so that no opportunity for extensive exploitation may be lost ... These phases of a plan do not comprise rigid instructions, they are merely guideposts. A sound battle plan provides flexibility in both space and time to meet the constantly changing factors of the battle problem in such a way as to achieve the final goal of the commander."⁴⁰

To use this flexibility properly he had to have accurate information on current friendly operations. The current intelligence Eisenhower gained also proved valuable.

An example of current intelligence information which Eisenhower learned at Normandy was the unexpected presence of the German 352nd Infantry Division. Though this mobile, full-attack division had been on the coast for almost three months, its presence was a surprise.⁴¹ Eisenhower, learning

of this division during his 7 June visit, recognized that the U.S. V Corps was succeeding against this unexpected foe. Due to V Corps' success no change was required in the plans. General Omar Bradley, Commander, First U.S. Army, had considered diverting the remaining elements from Omaha Beach, where the 352nd Division was located, to alternate beaches.⁴²

Current logistical information also played a key role for the operational commander at Normandy. From the start, the plan was to secure a footing on the continent and then build up sufficient strength in men and materials to strike a decisive blow.⁴³ The determination of when this buildup was accomplished depended on current operations logistics information. "Tactics, logistics, and morale -- to these three the higher commanders and staffs devoted every minute of their time. ... Logistics to meet ... daily needs and to build up the mountains of supplies and to bring in the reserve troops ... in order to make that attack decisive."⁴⁴ Thus the buildup of forces and supplies had to be sufficient before the breakout could be launched. Without accurate logistical information Operation Cobra may have been delayed unnecessarily.

VI. FUTURE OPERATIONS

"In forming the plan of a campaign, it is requisite to foresee everything the enemy may do, and to be prepared with the necessary means to counteract it.

Plans of campaigns may be modified ad infinitum according to circumstances, the genius of the general, the character of the troops, and the features of the country."

- Napoleon, 1831⁴⁵

Future operations must be the primary forte of the operational commander. These include all operations being planned outside of the theater current operations window. In the best circumstances this is difficult to do. To accomplish this task successfully the operational commander must demonstrate leadership which "provides purpose, direction, and motivation in combat."⁴⁶ When planning operations, he must balance maneuver, firepower, and the protection of his force. As FM 100-5 states, "The personal influence of large joint and combined force, field army, corps, and division commanders will have a major bearing on the outcomes of battles and campaigns."⁴⁷ This influence starts in the planning process, but the commander must not be tied strictly to his headquarters by this process. There are only certain elements of information about future operations that the commander requires to support his decision-making process. His staff must provide this information and free him to fulfill his other responsibilities as commander.

As with the previous categories discussed, the future operations information the commander requires is also dependent on his leadership style. The theater commander will probably be directly involved in the planning of future operations. His judgment, insight, and coup d'oeil will all be required to ensure that the operations support the objectives of the campaign and maximize prior success.

To accomplish this planning the theater commander requires information which is different from that previously discussed. Information gained on current operations will be valuable but not sufficient by itself. Besides recognizing where the campaign has been, the commander will need to consider where it is heading and how that direction can be changed if necessary. The minimum information requirements which will support these objectives can be broken into the categories of intelligence, operations plans, and logistics.

Intelligence Information for Future Operations:

Intelligence information the commander requires to plan future operations greatly overlaps the information discussed in current operations. The commander needs intelligence which will help him determine what will happen in the future, what the enemy will do in future operations. He also needs information which will promote his understanding of the environment he will be operating in. This information will help him see the big picture so he can employ his forces to accomplish the desired end state.

Great operational commanders in history have faced

similar problems as our commanders do today. An examination of General Eisenhower yields a list of the information he valued:

- all elements discussed under current operations intelligence
- military geography of the theater to include:
 - topography
 - hydrography
 - climate and weather
 - theater transportation system and its capabilities and limitations
- communication systems available in theater
- the political situation in theater
- the economic situation in theater
- sociological considerations such as religion, language, and attitudes
- location and disposition of enemy forces and sustainment capabilities which may be introduced
- operational capabilities of enemy equipment and forces
- enemy use of special weapons
- significant strengths and weaknesses
- unconventional and psychological warfare capability

Much of this information is discussed in detail in the Intelligence Estimate format of the Joint Staff Officer's Guide⁴⁸. The increased requirements over those for current operations are a result of the need to understand the situation being planned for. If the planned operation will happen in the same theater as the current operation, then

the requirements can be substantially reduced.

Before discussing friendly operations, it is important to mention a problem associated with intelligence information. When considering this information the commander must be cautious that he does not become the victim of a well conceived deception plan. Maskirovka is a premise for all Soviet operations. To believe that our enemy, whoever it may be, does not consider deception in his plans may be a fatal error. There is no simple technique which can be offered to avoid this dangerous pitfall. What is required is careful analysis and verification of all information received. If the information is unverified and highly perishable in nature, then risk is assumed when acting on it.

Operations Plans Information:

A theater commander will probably develop a series of concepts or plans to be prepared for whatever direction the campaign may turn. These plans are the campaign's branches and sequels. Since the commander provided the guidance on which these plans are based he will be cognizant of each of the plans. It is not important for the commander to be aware of all the details in each plan, but there are some important information requirements which he must be aware of. Once again, by studying the writings by, and about, a great operational commander I have developed the following list of critical information requirements:

- situation the plan applies to
- mission
- key assumptions on which the plan is based
- special command and control resources
- major combat forces required for execution of the plan to include any requirements for additional forces
- special weapons release authority
- political constraints or restraints which may apply
- unusual sustainment requirements
- unusual transportation requirements
- time required to initiate
- other unusual requirements
- benefits gained from the theater deception plan

Based on Eisenhower's experience gained in Europe, these are the key information requirements for a theater commander. With this information the commander can decide whether the risk associated with the plan is appropriate for the gains expected to be achieved if the plan is executed successfully.

The last information requirement listed above is worthy of elaboration. The deception plan is an important part of any theater campaign plan. At the operational level of war the deception plan can provide an excellent situation for a future operation to take advantage of. To be successful the deception plan must be well thought out in advance. thought

out from the enemy's perspective and not our own. As Major Thomas Savoie has written:

"We must be able to imagine ourselves in the enemy's position and see reality from his point of view. This includes not only an understanding of his intelligence collection capabilities -- human, communications, signal and electronic -- but also a familiarity with his doctrine and historical experience. It is against this background that he will interpret the information collected by his intelligence systems." 49

According to FM 100-5 the objective of a deception plan is to achieve the principle of surprise.⁵⁰ This element of surprise can be the key to success in many operations planned within the theater.

Future Operations Logistics Information:

Baron de Jomini called logistics "the practical art of moving armies."⁵¹ The future operations logistics information that is important to the commander is that which identifies an unexpected limitation. That limitation can come from any one of many areas. What is important for the commander to know is how his operation will be affected. The operational commander studied was concerned over a number of logistical problems. The main ones which were identified are summarized here:

- all classes of supplies
- transportation to include air, sea, and surface
- medical support
- replacement personnel
- maintenance support
- replacement equipment

These few points encompass a spectrum of major problems an operational commander can face. Any of these problems can limit his ability to accomplish his goal. Generally, the commander does not need to be aware of the details of each of these on a routine basis-- to do so would overwhelm him with information. However, he must be aware of problems which will affect the execution of his planned operation.

An Historical Example -- The Scheldt Estuary

The operation to secure the Scheldt Estuary was a spinoff of the Antwerp Operation during the Fall of 1944. After conducting an unprecedented sweep across France through the end of September 1944, logistic constraints forced General Eisenhower to call a halt in October.⁵² During this operational pause the Allied forces continued to develop plans for future operations. One of the key operations planned was to gain control of the approaches to the port of Antwerp.⁵³

Though Allied forces had captured Antwerp on 4 September, its facilities were unusable until the water

approaches to the port were controlled. The primary approach to Antwerp from the North Sea was the Scheldt Estuary. Intelligence told Eisenhower that the Germans had mined the estuary and controlled two islands alongside it--Walcheren and South Beveland Island. These German forces dominated the waterway. To accomplish the operational objective of using Antwerp this resistance had to be eliminated. The operation to secure the Scheldt Estuary was subsequently planned for this purpose.

The Scheldt Estuary operation also provides a good example of a theater commander's knowledge of future operations. Eisenhower knew that this operation was required if he wanted to use the port of Antwerp. The use of Antwerp was viewed as critical to the continuation of future Allied operations in the northern sectors.⁵⁴ Until Antwerp could be opened the theater LOC stretched back through the Normandy beachhead! Thus Eisenhower recognized what had to be accomplished to proceed with his campaign.

As previously noted, logistics information was of the utmost importance to Eisenhower. The availability of the port of Antwerp seriously affected the Allies' future plans. Even though the first convoy was not expected to get into Antwerp until 28 November 1944 "long range plans of supplies could ... be elaborated in terms of Antwerp's great tonnage capacity."⁵⁵ It had been the strain on the communications system which caused Eisenhower to call for the operational pause in October 1944. In a meeting with his top commanders on 22 September 1944 Eisenhower had announced that he

"required general acceptance of the fact that the possession of an additional major deep-water port on [their] north flank [was] an indispensable prerequisite for the final drive deep into Germany."⁵⁶ It was shortly after this announcement that Eisenhower launched operations north towards the port of Antwerp.

These several observations demonstrate a theater commander's use of information regarding future operations. Eisenhower considered intelligence, operations, and logistics information when looking to the future of his campaign. Without his comprehension of this information the victory over Germany may have been delayed until much later.

VII. CONCLUSIONS

I have attempted to examine the concept of information from the perspective of the operational commander. The responsibilities of the operational commander are both comprehensive and complex. To be able to accomplish his mission the commander needs a variety of information. This information will be used to support his decision-making process. For the operational commander the problem can quickly become one of information overload. The computer supported C² and data management systems available today can provide more information than the commander can possibly absorb, even in peacetime. Throughout this paper I have tried to identify what specific elements of information the operational commander would need to be effective.

To attempt to develop a comprehensive list of information requirements that would be appropriate for all operational commanders is beyond the scope of this monograph. Every commander is unique and each has his own leadership style. It is the commander's leadership style that is greatly responsible for the types and quantity of information that he will require.

While studying the operational commander's information requirements I found that the three primary areas the commander is concerned with are strategic guidance, current operations, and future operations. All the information which is critical to his decision-making process falls into

one, or more, of these areas. The information the operational commander must consider is different from that considered by tactical commanders. The primary differences lie in the time and space factors. While the tactical commander is conducting battle, the operational commander is attempting to set the conditions for future tactical battles. The tactical commander fights to achieve goals which support the operational commander's campaign plan while the operational commander uses tactical achievements to accomplish one or more strategic aims. The final product the operational commander aims for is the desired end state.

Throughout this paper I have examined a spectrum of information which would be valuable to a theater commander. By studying the campaigns of General Eisenhower in Europe I have identified several critical information requirements which the operational commander should have available to support his decision-making process. The lists included in this monograph only indicate the core elements of information; each of the lists can be expanded to support the theater commander's particular interests.

The types of information that are most important to the operational commander are those which clarify the opponent's source of power (ie: political, economic, military, psychological, and/or geographical). With this information the commander can adjust his campaign plan to ensure that he attacks this center of gravity either directly or indirectly. By defeating the enemy's center of gravity the operational commander will be able to win.

In closing, the operational commander must keep his information down to a manageable level. To accomplish this he must first decide what specific elements of information are important for him to receive personally. A suggested starting point for these elements, by category of information, is included in this paper. Second, he should have confidence in the ability of his staff and use them to oversee the innumerable tasks which do not require the commander's direct attention. I would also suggest that the theater commander free himself from detailed supervision by using the technique of management by exception. This will allow him to concentrate on those tasks which require his direct attention. By following these suggestions the operational commander can provide himself more time to accomplish the multitude of tasks for which he is personally responsible.

APPENDIX A - Growth of Battlefield Complexity

DAYS OF CLAUSEWITZ (Napoleonic Wars):

MANEUVER:

- Infantry
- Cavalry

INTELLIGENCE:

- Human Intelligence
- Reconnaissance

FIRE SUPPORT:

- Tube Artillery
- Congreve-type Rockets

LOGISTICS:

- Supply
- Transportation
- Medical
- Administration

ENGINEERS

TOTAL = 11 Functions/Agencies

DAYS OF PATTON (World War II):

MANEUVER:

- Infantry
- Armor
- Cavalry

INTELLIGENCE:

- Human Intelligence
- Signal Intelligence
- Reconnaissance

FIRE SUPPORT:

- Tube Artillery (DS/GS
& Counterfire)
- Rockets

LOGISTICS:

- Supply
- Maintenance
- Transportation
- Medical
- Administration

ENGINEERS

AIR DEFENSE (Ground):

- Guns
- Automatic Weapons

TACTICAL AIR SUPPORT:

- Air Defense
- Armed Reconnaissance
- Airlift
- Interdiction

TOTAL = 20 Functions/Agencies

Figure #1: Battlefield Complexity -- Napoleonic Wars thru
World War II (Taken from Gen. William E. DePuy's
article, "Concepts of Operation: Heart of
Command. Tool of Doctrine," ARMY, August 1988, p.
29)

DAYS OF AIRLAND BATTLE (Today):

MANEUVER:

- Infantry
- Armor
- Cavalry
- Attack Helicopters

ENGINEERS

FIRE SUPPORT:

- Tube Artillery (DS/GS
& Counterfire)
- Rockets
- Missiles

AIR DEFENSE (Ground):

- Guns
- Missiles
- Automatic Weapons

INTELLIGENCE:

- Human Intelligence
- Communications Intel
- Electronic Intel
- Reconnaissance, Sur-
veillance, & Target
Acquisition

LOGISTICS:

- Supply
- Maintenance
- Transportation
- Medical
- Administration

TACTICAL AIR SUPPORT:

- Air Defense
- Reconnaissance
- Surveillance
- Airlift
- Close Air Support
- Battlefield Air
Interdiction
- Interdiction
- Target Acquisition

TOTAL = 30 Functions/Agencies

Figure #2: Battlefield Complexity on Today's AirLand Battlefield
(Taken from Gen. William E. DePuy's article,
"Concepts of Operation: Heart of Command, Tool of
Doctrine," ARMY, August 1988, p. 29)

APPENDIX B -

Allied Expeditionary Force Chain of Command -- 1944-1945

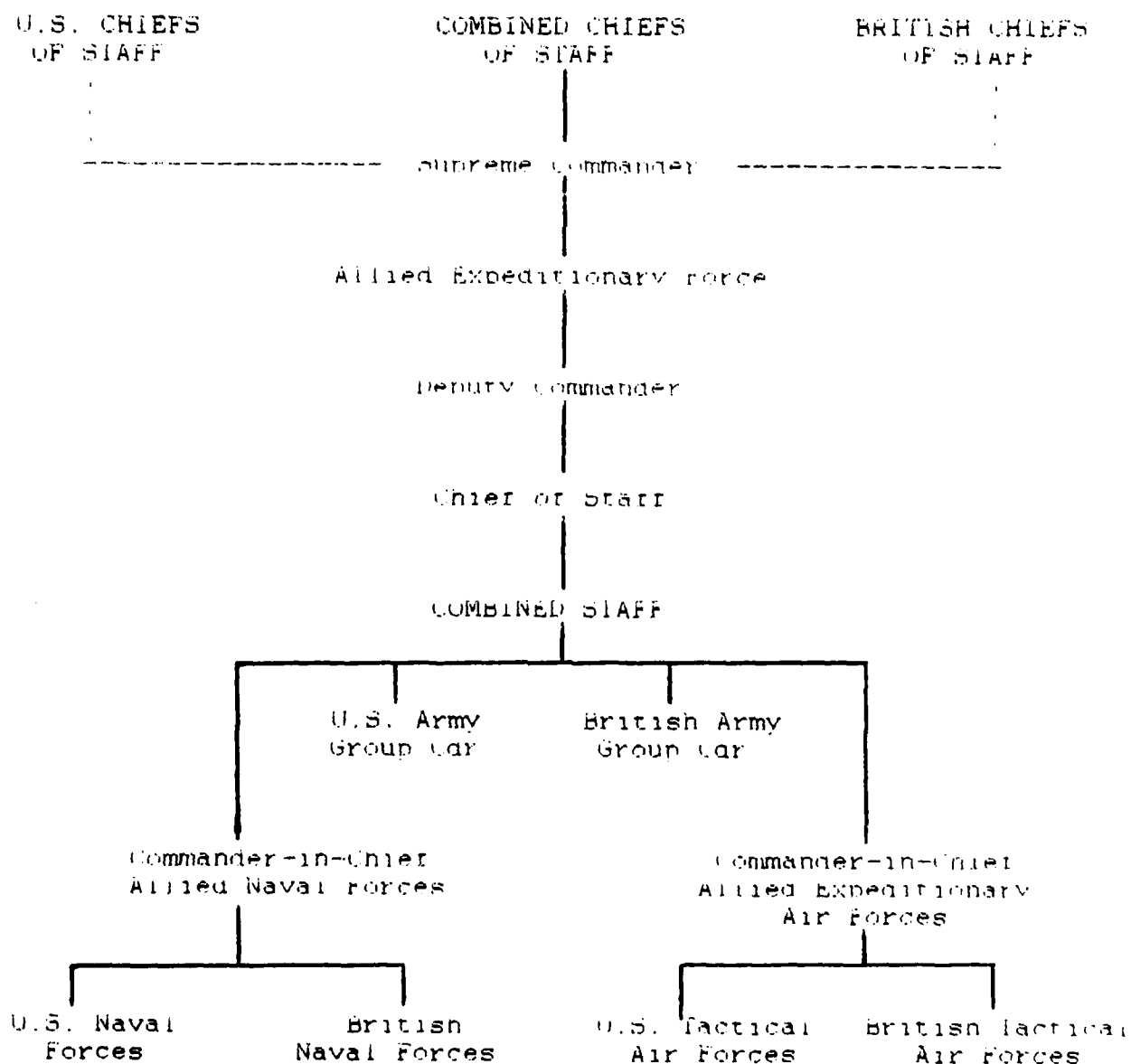


FIGURE #5: ALLIED EXPEDITIONARY FORCE CHAIN OF COMMAND (Taken from Report by the Supreme Commander to the Combined Chiefs of Staff on the operations in Europe on the Allied Expeditionary Force, 6 June 1944 to 8 May 1945. p. viii.)

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